

IRON AGE

FARM, GARDEN AND ORCHARD IMPLEMENTS

American Factory—Established 1835

BATEMAN MANUFACTURING CO.

GREENOCK, NEW JERSEY, U. S. A.

Canadian Factory—Established 1848

THE BATEMAN-WILKINSON COMPANY, LIMITED

TORONTO, ONTARIO

SPRAY *the* **IRON AGE** **WAY**



Tools are carried in stock at centers of distribution. Liberal stocks of suitable tools for each vicinity are carried by the best implement and hardware dealers in the country. If not handled by your local dealer, write us for nearest address where tools can be seen and explained.

FORM NO. 1201



BATEMAN M'FG CO.
GRENLOCH, N.J., U.S.A.

IRON AGE

EIGHTY-TWO
YEARS IN BUSINESS

Something must be done to curb the appalling waste caused by insects, potato bugs, anthracnose, scale, scab, leaf-spot and the like.

In these days of high-priced seed, scarce labor, and overwhelming demands for food, every effort must be made to save and develop our entire crops, to use *machines* to grow more and better fruit, potatoes, etc.

Farmers who would rise in wrath at a neighbor neglecting a case of cholera among his hogs, themselves make but little effort to save their fruit trees, garden truck, and field crops against the many diseases and insects that attack them.

There are thousands of farmers in this country who should stop a minute to realize, as the big fruit grower realizes, that *practically no marketable fruit can be grown today without spraying.*

Spraying shows its biggest results when the grading is done. Instead of a crop of insignificant culls, the market is topped with heavier yields of extra large, smooth, un-damaged products. In the orchard, perfect trees remain for next year's harvest.

Heavier yields result, for Experiment Stations and hundreds of farmers working independently have shown clearly over and over again that spraying is of value not only for warring on the pests, but for the broad general effects as stated for potatoes by a Michigan grower as follows:

- More resistance to growth of disease
- Easier taking of food from the air
- Growing season extended, insuring heavier yield
- More dry matter and starch formation

These things are equally true in greater or less degree with all row crops, fruit trees, bushes, etc. Insects and diseases attack potatoes, tomatoes, cabbage, celery, asparagus, sugar beets, egg plants, cantaloupe, cotton, tobacco, cucumbers, apples, peaches, pears, small fruits, nut trees, shade trees, flowering shrubs, and plants of all kinds. None of these are any good unless brought safely to maturity. All are improved by careful spraying. So are grain fields and meadows.

In the orchard it takes two full years for the trees to bear after the foliage is once destroyed—one season to leaf, the next to bloom, and sprayed fruit looks better, tastes better and keeps longer. The time is coming when all States will require spraying—many do now, others will this year. But don't wait for the law to enforce something that you should be doing for your own profit already. There is no question of the profit—it is certain to follow if you do your part.

Whether a farmer has few or many acres does not decide whether he needs a sprayer or not—it merely helps to indicate

what *kind* of sprayer he wants. There is an Iron Age Sprayer for every purpose from spraying the house plant, rose bush, shade tree or small garden up to spraying large fields and orchards by high-powered, fast-working machines.

What to Spray—What to Use

Bulletins are published in every state and by the U. S. Department of Agriculture at Washington, D. C., telling just what to do. Your State Experiment Station or Agricultural School will be glad to answer any questions. Also, we have a complete Spraying Calendar which we send without charge. Ask for it.

Traction and Power Sprayers for Row Crops

Nos. 102, 103 or 107 Sprayers, depending on equipment, are recommended for spraying for potato beetle when more than four rows per trip are not desired.

No. 354 Sprayer is recommended for spraying either four or six rows for *blight*. Equipped with duplex pump this sprayer will give the 150 lb. pressure required for blight spraying.

No. 357 Sprayer equipped with triplex pump will supply a pressure up to 175 lbs., the highest pressure practicable from traction. The triplex pump works more smoothly just as the six-cylinder motor runs more smoothly than the four.

No. 115E Engine Sprayer will spray more than four rows at a time for blight, operating with 200 lbs. or more, pressure. This Sprayer is especially desirable for the farmer who may also wish to use the same engine in operating his Iron Age Potato Digger, the same engine operating both. This sprayer being mounted on two wheels makes an ideal outfit for the orchard, vineyard and other spraying.

No. 358 Sprayer is designed for spraying rows of vines, etc., under the highest pressure obtainable from traction. The long booms have 16 nozzles covering 24 to 26 feet when spray bar is extended, or seven rows four feet apart.

Power Sprayer for Orchard. Each farmer should study the catalog carefully for himself and judge for himself when the point is reached where a power sprayer is required. Much depends not only on the number, size and shape of the trees but upon the labor situation.

BATEMAN M'FG CO.,
GRENLOCH, NEW JERSEY, U. S. A.

Most Successful of Their Kind

Iron Age Sprayers are the result of twelve years' experience making such machines. They are made by practical farmers who use them constantly on their own modern, scientifically conducted farms. Furthermore, eighty-two years' experience making farm, garden and orchard implements is back of every Iron Age Sprayer as made today.

You will find they have capacity, power and a range of adjustment to suit your every need; the best pumps on any line of sprayers made, and every modern convenience for easy working.

With them you can *prevent blight*, and you can spray for bugs in the quickest, surest way.

The right solutions put on quickly and thoroughly with these machines save your trees, plants and crops without taking much of your time. More than that, the crop will be increased in vigor, paying for machine, solutions and labor in a short time. This is the kind of insurance that *saves* your crops (and nothing else will) and gives you a handsome profit besides.

Equipment. You can have single, duplex or triplex pumps, 55- or 100-gallon wood tanks, wood or steel wheels, regular or wide spray bars, combination pole and thills, or either separate. Wood wheels are furnished unless otherwise specified. They are 50 x 3 inches and adjustable on the axle for various width rows. (See inside of back cover for various arrangements of spray bars for different crops.)

Pipe, Fittings, Etc., are made of the highest grade material, as are all parts on the sprayers. A good quality *woven* hose is supplied as being more satisfactory than *wrapped* hose. Each traction sprayer includes a bucket strainer.

Wind Shift and Nozzle Strainers. Furnished for all four- and six-row sprayers without extra charge. The wind shift is adjusted with the foot from the seat and enables the operator to put the spray just where he wants it, even though the wind is blowing.

Orchard Attachment. This is a pipe and hose attachment with a lever to pump and gives you a combination machine for orchard work as well as general farm spraying at slight additional cost. It does the work thoroughly. See page 8.



View of No. 356 in field

Four-Row Traction Sprayers

Some Mechanical Features

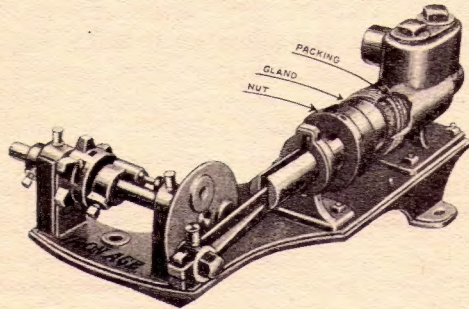


Fig. 535
Cross section
single-acting pump

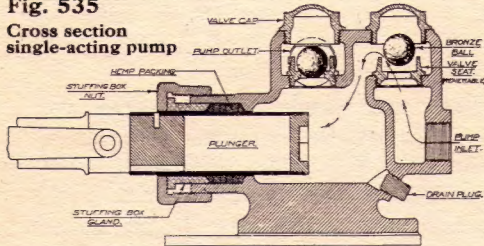


Fig. 333
A—Relief
valve
B—For orchard
attach.
C—Pump
shut-off

IRON AGE PUMPS are very different in principle from those used on other sprayers. They have very important and unique advantages. For instance, note the construction of *Fig. 535*. Most pumps have brass lined cylinders; Iron Age Pumps practically have none, getting their efficiency from the hollow brass plunger which passes through a stuffing-box. Cylinder pumps require some soft substance on the plunger to get suction and this soft substance never withstands the corroding effect of the strong chemicals very long. It hardens and wears, quickly lowering the efficiency of the pump. On the Iron Age Pump, however, such troubles are entirely avoided because a tight stuffing-box has nothing about it to corrode, harden, or in any way reduce the suction and power. The plunger touches only the packing and there is practically no friction at all.

The packing is hemp with lead core. It wears well, cannot harden, is easily removed and costs little to renew. Note how easily it is replaced—unscrew the stuffing-box nut, pull the

gland back and take out old packing which is in six rings. Put in the new packing and screw nut up tight with the special wrench.

Now look at *Fig. 535* again, noting the valves. Simply bronze balls, natural valves which find their seats easily. Being directly under square-head screw caps, they are easily reached and cleaned.

As the only parts coming in contact with the solutions are brass, any kind of solution may be easily and safely handled. A large air-chamber helps maintain high, steady pressure. The heavy base on which the pump is mounted keeps all parts in line. The drive is in the center from both wheels at once. Button clutch throws it out of gear. Plenty of spring cap oil cups are supplied.

The large Relief Valve (*Fig. 333*) not only gives relief for too much pressure but helps to change the fineness of spray. Adjustable spring pressure makes it easy to regulate.

Wood Tanks (*Fig. 483*) are 55- and 100-gallon sizes. Best grade one-inch cypress with adjustable steel hoops. A reversed intake prevents sediment settling in the outlet pipe and clogging it. Tanks are provided with hand-hole, bucket strainer, and clean-out plug.

A revolving dasher constantly stirs the solution to prevent deposits in bottom. This thorough mixing and high pressure lets you use strong solutions, knowing that all plants get the same dose.

The row adjustment for regular machines is 28, 30, 33, or 36 inches apart. One lever does it and the pipe slides out of the way when on the road, through gates, etc. When ordered, a wide bar will be furnished (at same price) to spray rows 34, 36, 39, or 42 inches wide—order by adding letter "B" to number of machine, as No. 102B.

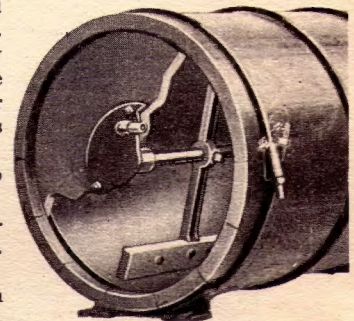
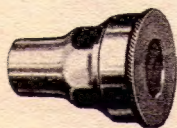


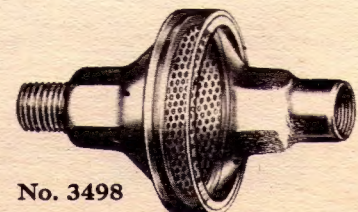
Fig. 483
Showing revolving dasher



No. 3496
Furnished on all
traction sprayers

Nozzles and Nozzle Strainers

Nozzle Strainer No. 3498 strains all of the solution and keeps particles of dirt from stopping the flow through the nozzle. The picture shows the strainer complete with screen. No matter what crops are sprayed this strainer will prove effective and of great value. Nozzle Strainers are now furnished free with each new Traction Sprayer. If wanted as an attachment, order No. 3498.

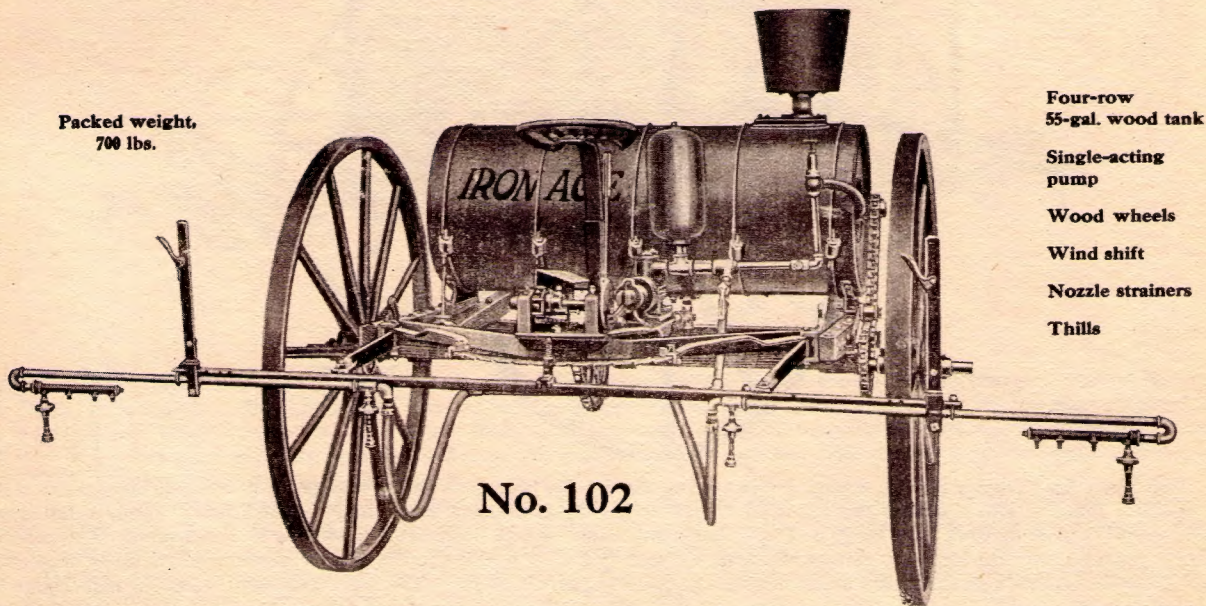


No. 3498
Nozzle strainer complete

Four-Row, 55-Gallon Traction Sprayers

For Potatoes, Cucumbers, Tomatoes, Asparagus, Celery, Cabbage, Egg Plant,
and other Row Crops. Also for Cantaloupe, Strawberries,
Cotton, Tobacco, Grain and Weeds

Packed weight,
700 lbs.



Four-row
55-gal. wood tank
Single-acting
pump
Wood wheels
Wind shift
Nozzle strainers
Thills

No. 102

No.
102

Spraying for bugs with this machine means crop insurance. With the right solutions, at the right time, this machine will do its work so thoroughly and quickly that you will wonder how you ever did without it. Its stimulating effects on the plants alone will quickly pay the expenses.

Will easily and thoroughly spray four rows at a time.

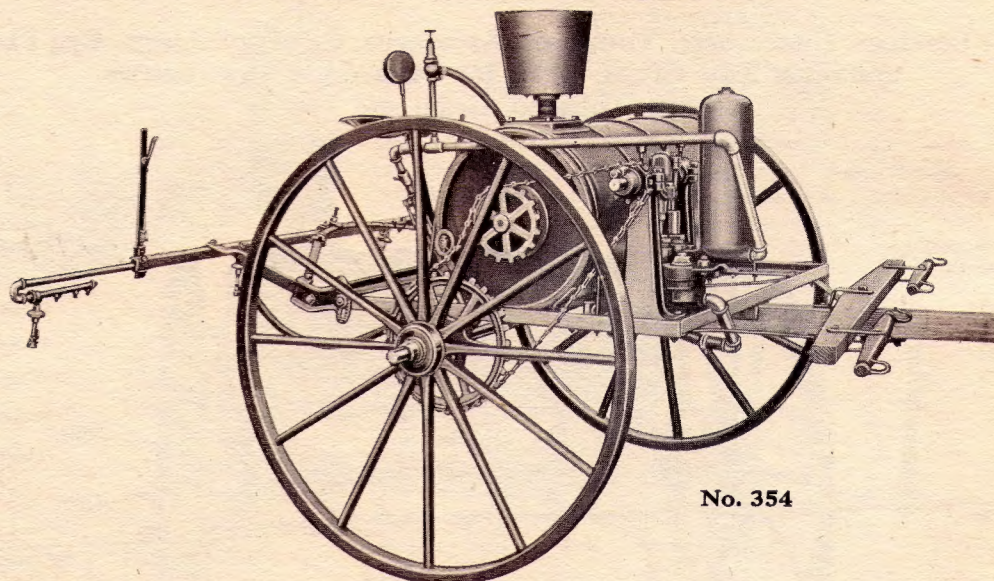
Twelve years' experience is back of these sprayers and we do not hesitate to recommend them as the most successful of their kind. They have capacity, power and adjustments to suit your every need, the best pumps on any line of sprayers made, and every modern convenience for easy working.

Pipe and fittings—all parts on the machine in fact—are made of the highest grade material, and woven hose is furnished. Bucket strainer included on each machine. Wind Shift furnished on all without extra charge, is adjusted with the foot from the seat and enables the operator to put the spray exactly where he wants it, even in the wind. Orchard Attachment—pipe and hose with a lever for pumping—gives you a combination machine for orchard work, general farm spraying, etc., at slight additional cost. See page 8.

Equipment

- No. 102. Four rows; 55-gal. Tank; Thills; Single-Acting Pump; Wind Shift and Nozzle Strainers.
No. 103. Same, except Pole is furnished instead of Thills.
No. 107. Same, with Combination Pole and Thills.

Four-Row Traction Sprayers



No. 354

The "Iron Age" Duplex (double acting) Pump used on the No. 354 Sprayer is new. Designed to give double the capacity of the single-action Pump, it also gives *smoother* action, thus you can get higher pressure under the same conditions. When its full power is not needed, it does its work more easily and lasts much longer than pumps which are always used to the utmost. This surplus power saves expense in the long run, quickly offsetting the slightly higher first cost. Its greater power is particularly important when the vines become very dense and heavy mixtures are used to prevent blight. This advantage will be readily appreciated by practical farmers.

The No. 354 Four-Row Traction Sprayer shown on this page is fitted with this powerful Duplex Pump. This fast-working long-lived machine will deliver spray at a pressure of 150 lbs. or more.

Width of rows are adjustable to 28, 30, 33 or 36 inches. At the same price, a wide bar can be obtained to spray rows 34, 36, 39 or 42 inches apart, by adding letter "B" to number of machine, as No. 354B.

Equipment

No. 354. Four rows, 55-Gal. Tank; Pole; Duplex Pump; wind shift and nozzle strainers.

No. 354S. Same as No. 354 except with shafts instead of pole.

No. 355. Same as No. 354 except with 100-gallon tank.

Six-Row Attachment

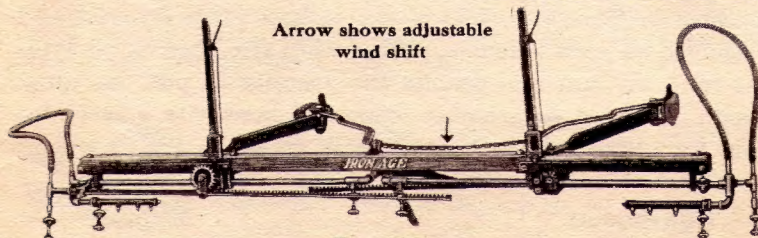


Fig. 413

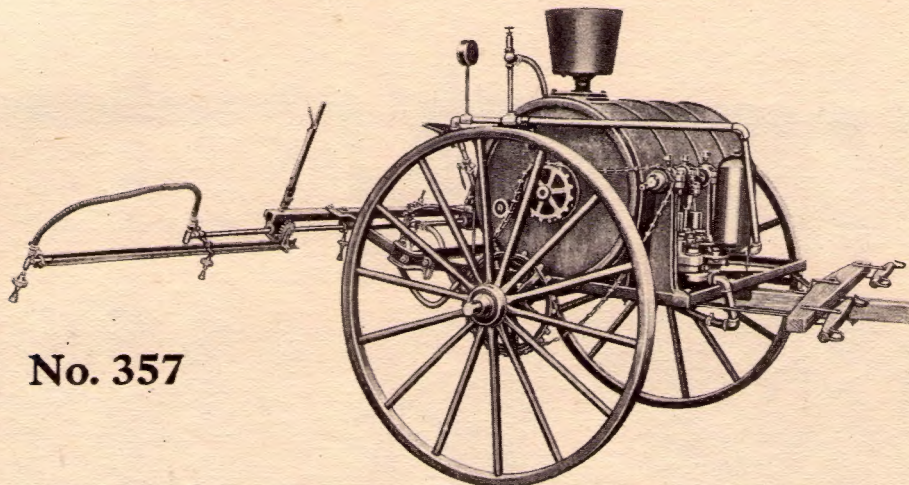
Six-row and wind-shift attachment only, with 2 nozzles and 2 nozzle strainers.

Can also be furnished without wind-shift attachment to fit machines made in 1912 or before.

This may be used on Nos. 354, 355, 356, 358 and the Engine Sprayer for field, orchard and vineyard shown on pages 9, 10 and 11. Many different uses of this attachment may be made by special arrangement of piping and adjustment of the levers, especially in combination with the middle row attachment.

Practically the same equipment may be applied to the combination engine field, and orchard sprayers, Nos. 114, 115 and 116. When ordering for such applications order No. 2 Six-row Attachment and specify purpose for which you wish to use it.

Six-Row 100-Gallon Traction Sprayers



No. 357

**No.
357**

Here is a machine for the farmer who wishes to spray at the highest pressure obtainable from traction and to do it rapidly. The "Iron Age" Triplex Pump will deliver spray under a pressure of about 175 lbs. when operated from the wheels by traction. Just as the six-cylinder automobile runs more smoothly than the four, this pump will run somewhat more smoothly than the Duplex as each plunger connects with the crank shaft at a different angle. This reserve power makes it a long-lasting pump.

Large acreages of potatoes demand quick work and a machine that covers six rows at high pressure is worth the difference in cost. It cuts the team travel one-third and covers the ground more than half again as fast as with the four-row sprayer on account of time saved in turning—a vital matter in these days of scarce labor.

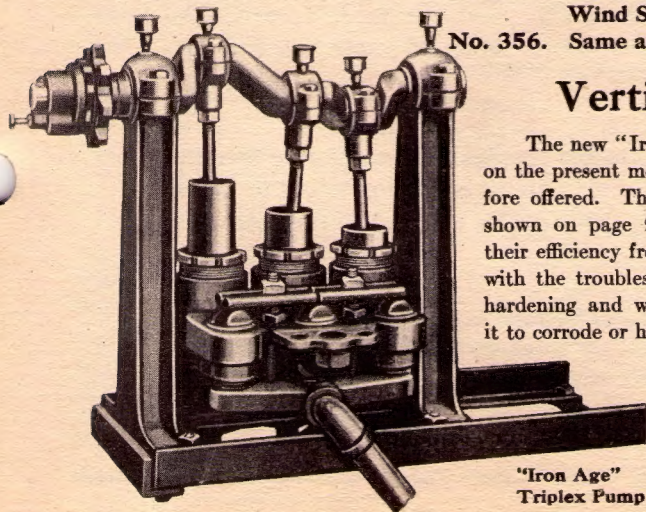
The trucker will find still another advantage in this six-row machine. Where he grows two crops together, such as tomatoes and peas, he can stop off every other nozzle so as to cover only one of the crops.

Equipment

No. 357. Six rows; 100-gallon Tank; Pole, Triplex Pump, Wind Shift and Nozzle Strainers

No. 356. Same as No. 357 but with Duplex Pump

Vertical Duplex and Triplex Pumps



**"Iron Age"
Triplex Pump**

The new "Iron Age" Duplex (two-plunger) and Triplex (three-plunger) Pumps used on the present models of Iron Age Power Sprayers are a great advance over any heretofore offered. They retain the important advantages of the Iron Age Horizontal Pumps shown on page 2. They have no cylinders in the general sense of the word, getting their efficiency from brass plungers which pass through stuffing boxes. This does away with the troubles common with cylinder pumps due to leather or other soft substances hardening and wearing out. The stuffing-box avoids all such as there is nothing about it to corrode or harden. The plunger touches only the packing and there is practically no friction at all. Plungers $2\frac{1}{4}$ -inch hard drawn brass; 3-inch stroke. Valve seats hard brass, easily inspected or renewed. Bronze ball valves; all bearings babbitted; crank and countershaft bearings self-aligning and cheaply renewed. Frame, gray iron, made in one piece with valve chamber. Drop forged crank, $1\frac{1}{8}$ -inch diameter, accurately machined; large air chamber to insure steady pressure.

Combined Pickle and Potato Traction Sprayer, No. 358



TO save pickles from blight, it is necessary to spray thoroughly and several times. To do it economically and in the right way, you need a machine with a powerful pump and one that covers considerable ground, especially as the vines should be parted each way for the machine to pass, and you do not want to do this more than is necessary. This machine has 16 nozzles (see inside back cover) and covers 24 to 26 feet when spray bar is extended, or seven rows, four feet apart—also, has galvanized tubing throughout. It has the best pump in use on any Sprayer, the new Iron Age Triplex, and puts the solution on in a fine mist that covers the leaves completely and effectively. The booms fold easily and lock in position from the seat. There is a separate hose to each boom—no extra joints—no leakage. When folded, will pass through any ordinary farm gateway.

This pickle sprayer can be changed in a few minutes to the No. 354 four-row potato sprayer—simply take off the booms. You may not have enough grain or enough potatoes to warrant the purchase of a large outfit for each purpose, and this machine will answer for both at the one initial cost.

Fig. 418 (page 8) including steel pipe or bamboo rod, hose and fittings makes this machine practical for small orchards, also.

Equipment

No. 358. 100-gallon cypress Tank, Iron Age Triplex Pump, Wood Wheels, Pole, Neck-yoke and Doubletrees. Also a bucket strainer.

Attachments for Traction Sprayers

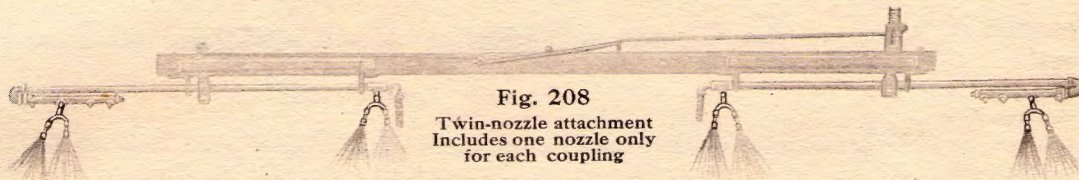
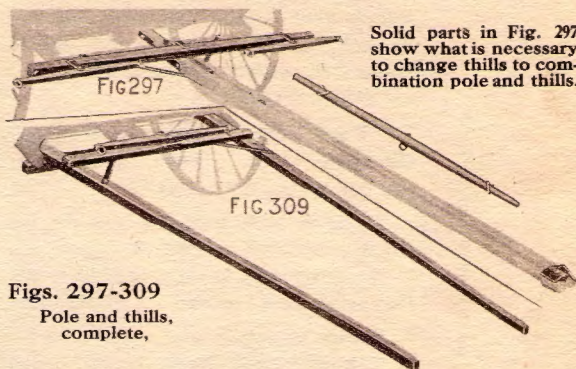


Fig. 208
Twin-nozzle attachment
Includes one nozzle only
for each coupling

Twin-Nozzle Attachment, Fig. 208. It is especially valuable when spraying for blight. The attachment consists of four "Y" couplings and four extra nozzles as shown by solid parts in the cut. When you order Sprayers this way add letter "A" to the number, as *No. 354A*—means No. 354 with twin-nozzle attachment.

Combination Pole and Thills, Fig. 297

A great many farmers want to be able to use two horses or one on sprayers. The solid parts in *Fig. 297* show what is necessary to change "Iron Age" sprayer thills to combination pole and thills. These extra parts will be furnished for any old machines. When *No. 102* is wanted with this equipment, order as *No. 107*. The pole when set up this way is securely attached, well braced and rigid. Extra long doubletrees and neck-yoke to permit spraying astride two 36-inch rows. *Fig. 309* represents the thill form and can be supplied this way for old No. 103. when wanted.



Figs. 297-309
Pole and thills,
complete,

Middle Row Attachment, Fig. 546

For use when spraying three rows of vine crops, such as cucumbers, tomatoes, cantaloupe, etc. Used only on two-horse machines.

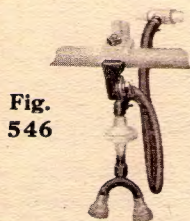


Fig. 546

Solid parts show middle row attachment.

Is easily attached to center of sprayer bar and is adjustable. The solid parts in the cut show what you get with the attachment—no nozzles are sent at price quoted, but will be furnished when ordered. Nozzle strainer is included.

Tomato Spraying Attachment, Fig. 219

Is furnished in three sections, A, B and C, to do the work in the right way at each stage of the growth of vines. Can only be used with sprayers equipped with pole, and sprays one or two rows, depending on the size of the vines. When plants are small, the curved pipes marked "A" spray astride one row and the sides of the next two rows. When plants are medium size, pipes marked "B" are used in the same way.

When plants are full grown, one-half of the pipes marked "B" are used in connection with middle row attachment marked "C" for spraying one row only.

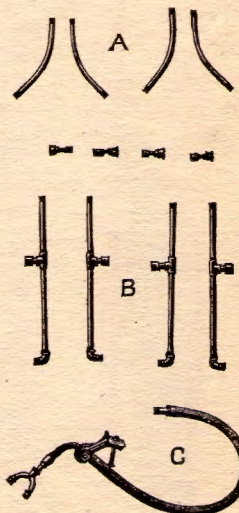


Fig. 219
Tomato spraying attachment, complete,



Fig. 532
Weight balancing attachment

Weight Balancing Attachment, Fig. 532

This is used on the 100-gallon machines and overcomes the tilting of the machine from the time the tank gets about half empty. Adjusts simply, by turning the crank and pulling the weight to front of the pole.

Orchard Attachments

For Traction Sprayers

A strong point in favor of the Iron Age line is that we can furnish a complete orchard attachment

(Fig. 418), which costs but a small part of the price of the sprayer, but increases its value one-third to one-half.

If you are a potato grower with acreage that warrants the Traction Sprayer and also have trees, grape vines, berry bushes, etc., to spray, you may prefer such an attachment rather than pay for and store an extra machine.

We have many other outfits for fruit and miscellaneous spraying from which you can certainly select what will do your work in the most economical way. It is for you to decide. We want to point out, however, that by using an attachment like this, you have a 55- or 100-gallon tank on wheels, always ready to go on short notice. By using it six to a dozen times more than if for row crops only, you get that much more satisfaction out of your investment.

Two Persons Operate the machine when spraying trees—one drives and pumps, the other directs the spray, which is forced high and very fine, to cover thoroughly. A quarter stroke of the lever does it—you can shut off the flow at any time.

The Attachment (Fig. 418) consists of 25 feet of four-ply rubber hose and fitting, ten feet of iron pipe, in two lengths, stop cock, and 45° ell, two movable wood handle grips, and one rubber drip. Note that lever is not a part of the attachment for machines made 1912 or since—a steel lever is sent with every Traction Sprayer. Note also that no nozzle is included. Furnished with bamboo rod if wanted.

For machines built previous to 1912, order orchard attachment, Fig. 417. It does not include a nozzle.

A
con-
venience
and a
saving



Fig. 418
Orchard attachment for new machines
shown by the parts in black

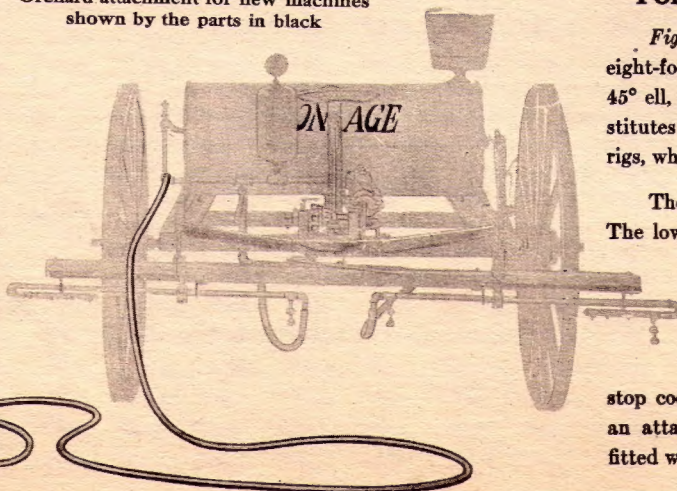


Fig. 419. The grips slide

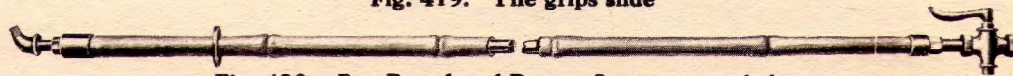


Fig. 420. For Barrel and Power Sprayers, see below

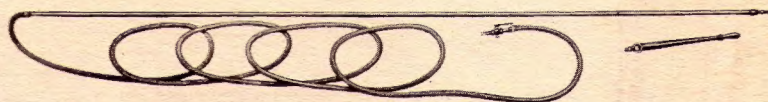


Fig. 417. Old style orchard attachment.

For Barrel and Power Sprayers

Fig. 419 at top of page shows steel pipe in eight-foot length with two-foot extension, stop cock, 45° ell, two wood grips and rubber drip, which constitutes attachment for any of the barrel sprayer rigs, when fitted with one lead of hose.

The grips slide on the rod to any position. The lower grip is usually fastened where you want it and the other slides up or down as you raise or lower the pipe. A grip like this makes it easier to hold.

Fig. 420 shows ten-foot bamboo rod, stop cock, 45° ell, and rubber drip, which is sold as an attachment for any barrel sprayer rig, when fitted with one lead of hose.

BATEMAN MFG CO.
GRENLOCH, N. J. U.S.A.

IRON AGE

EIGHTY-TWO
YEARS IN BUSINESS

Combined Field, Orchard and Vineyard Engine Sprayer



Shown above for field work—spraying ten rows potatoes or five rows of vine crops covering a width over 26 feet.

**No.
115E**

Having reached the limit of pressure which it was practicable to obtain through power derived from traction, we found it necessary to equip the sprayer with a gasoline engine in order to obtain the high pressure which we and others wished to use in spraying potatoes and other vegetables. In doing this, we have been able not only to increase the pressure, but we have also been able to increase the number of nozzles, thus spraying twice the area. This means much in these times of labor scarcity.

In adopting an engine for the sprayer we have applied the $4\frac{1}{2}$ H. P. Air-cooled "New Way" Engine, which is interchangeable with our engine digger, the two machines not being in use at the same time of year.

No. 115

Engine Sprayer without Engine, 10 Row Equipment.

No. 115E

Engine Sprayer with Engine, 10 Row Equipment.

No. 116

Engine Sprayer without Engine, 6 Row Equipment.

No. 116E

Engine Sprayer with Engine, 6 Row Equipment.

10 Row Spray Bar, Complete.

6 Row Spray Bar, Complete.

No. 114

Engine Sprayer without Engine or Spray Bar, for Orchard use.

Weight of machine as shown,
1350 lbs.

Experienced orchardists, potato raisers, and others have shown great interest in the splendid work of this sprayer, the large area covered by it as well as the efficient work done under the high pressure of about 200 lbs., at

which we operated it this past season on our farms.

The illustrations on pages 10 and 11 give a good idea of the businesslike qualities of the machine. The sprayer is regularly furnished with the equipment as shown in cut above.

In spraying potatoes with the long boom, no attempt is made to set the nozzles immediately over the rows to be sprayed. If this is desired, a 6 row bar can be used that can be easily attached in place of the one regularly furnished, but of course, to use this means less area covered per trip.

In general practice, very little economy is found in saving solutions by placing the nozzles immediately over the rows, leaving the space between not covered by the spray, because it is seldom that potatoes are sprayed very many times before the

vines get to be of good size. Moreover, if an attempt is made to spray only immediately over the rows, poor workmanship often results, caused by crooked or unevenly spaced rows or irregular driving of the team. In actual practice the extra area covered and the quality of work done more than offsets the extra solution used.

We found it impractical to design a bar to spray this wide area that would be adjustable to meet the varying distances of planting practiced by different growers and yet have a nozzle immediately over each row.

For Spraying Other Crops with Running Vines

For the early spraying of rows planted wide apart, such as cantaloupes, cucumbers, tomatoes, etc., nozzle openings can be stopped off the spray bar in the spaces between rows and as the vines increase in size, more nozzles can be brought into action, as shown in the photograph directly below.

Bear in mind, where running vine crops are to be sprayed it is only necessary to turn the vines of the center row. The vines of the other rows need not be disturbed, and, if it is desired to plant them closer together, it can be readily taken care of in your spraying, the area between the center rows being about 25 feet, making it practical to spray

all kinds of rows planted close together in wide beds within the limits of the booms.

Orchard Use. On page 11 note illustrations of the sprayer with long spray boom removed, and two leads of hose attached, spraying peaches. It is equally well adapted for the spraying of all trees which can be sprayed without the use of a tower.

The sprayer being mounted on two wheels, can be turned in very short space at the ends of the rows or turned in the middle of the orchard without inconvenience or damage to trees or machine.

Tank. 100-gallon. Made of best grade of one-inch cypress. Adjustable steel hoops. A reversed intake prevents sediment settling in the outlet pipe and clogging it. The tank is equipped with large hand-hole opening on top and furnished with strainer-box of large capacity, a vent pipe for air, and a plug in the bottom for cleaning.

A revolving dasher keeps the solution thoroughly stirred to prevent deposits in bottom of the tank. With this thorough agitation and high pressure, you can safely use strong solutions and be sure that all plants get the same strength of solution.

The sprayer is also equipped with a strainer under tank where all solutions are again strained before going into the nozzles;—this is easily taken apart and cleaned.

Engine. "New Way," 4½ H. P. air-cooled. This engine is especially adapted to this purpose



Spraying 10 rows of potatoes at one operation on the Iron Age Farms. This is the way to do the work thoroughly and economically



Spraying peaches in large orchard

and for the operation of the engine digger, with which it is interchangeable. Therefore, all users of our engine sprayer should not fail to equip themselves with our "Iron Age" Engine Potato Digger, as the work of both can be accomplished with the investment in only the one engine which can be changed by simply removing four bolts.

The "New Way" Engine absolutely does away with the necessity of using water for cooling and therefore the risk of freezing in winter. Not only is this engine guaranteed by us, but also by the manufacturer and with each equipment you will find their guarantee bond, good for the life of the engine.

It is regularly furnished with Bosch Magneto.

The engine is equipped with clutch and simply by throwing a lever operated from the driver's seat, the engine can be engaged or disengaged without stoppage.

Nozzles. The nozzles are equipped with nozzle strainers, which strain all of the solution and keep the particles of dirt from stopping the flow through the nozzle.

Spray Bar. The booms fold easily and lock in position from the seat. There is a separate hose to each boom—no extra joints—no leakage. When folded, will pass through any ordinary farm gate. The long boom has 16 nozzles.

Pump. Triplex, Vertical; plungers $2\frac{1}{4}$ inch hard drawn brass, with 3 inch stroke. Valve seats hard brass, very accessible for inspection and re-

newal; Bronze ball valves; all bearings babbitted; Crank and Counter shaft bearings self-aligning and cheaply renewed; Frame is of grey iron, made in one piece with the cylinders and valve chamber; Crank, drop forged, $1\frac{1}{16}$ inch diameter, accurately machined; air chamber amply large, insuring steady pressure.

Wheels. Wood, 50 inch diameter, adjustable so as to satisfactorily spray potato rows 28 to 42 inches apart. The narrowest tread of the wheels is 60 inches and widest is 75 inches.

Frame. Made entirely of steel angles, thoroughly braced.

Tank Filler can be supplied with this sprayer if ordered. For description see page 15.

Rear Platform. A low hanging platform can be furnished for attaching on rear of these Combined Field, Orchard and Vineyard Sprayers when rear bar is removed for orchard work.

Other Uses. By reason of the design and of the pressure which this sprayer will develop, it is remarkable the number of adaptations that can be made with this outfit.

On our own farms we sprayed our vineyards, planted at 10 feet apart and watermelons planted as a catch crop between young trees, also strawberries, etc. The narrowest tread of the wheels, for vineyard work is 52 inches, the distance over all, outside of the hubs, being 57 inches.



Spraying watermelons planted between young trees

50-Gallon Power Sprayer

**No.
283**

No. 283 is a separate and complete Power Sprayer, necessarily of limited capacity on account of the size of the barrel and engine, and pump is single-acting. It has the advantage, however, of being light, and it can be used in perfect safety on hillsides. One horse can pull it anywhere. All that is necessary is to satisfy yourself that it has sufficient capacity for your purpose.

Specifications

Barrel, 50 gallons.

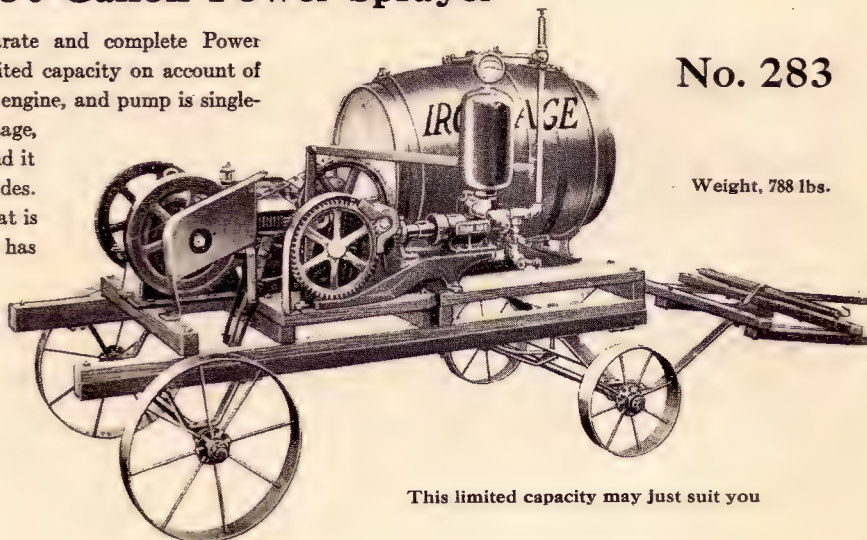
Power Pump, single-acting, chain-drive, (No. 281). See page 19. Pressure, 150 pounds with two nozzles.

Engine, one-horse, four-cycle, air-cooled, (No. 261). See below.

Truck, all-steel, (No. 252, page 18).

Other equipment, large air chamber, large relief valve, pressure gauge, automatic agitator for solution in the barrel, adjustable chain tightener, guards for gearing and chain, double hose coupling, sediment chamber with strainer.

Hose and spray rods are not included in the price of any



No. 283

Weight, 788 lbs.

This limited capacity may just suit you

Sprayer. Figs. 456, 419 and 420, on pages 8 and 24, show them. One lead of hose means 15 feet, $\frac{1}{2}$ -inch, with one "Iron Age" nozzle and strainer. Either steel or bamboo spray rods can be furnished and they are complete as shown in the cuts on page 8.

One-Horse-Power Engine

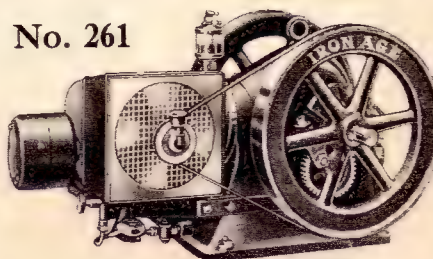
**No.
261**

No. 261 is manufactured for Bateman Mfg Co., by a well known gas engine corporation.

Construction. Four-cycle type, the standard of the best manufacturers. Air-cooled—will cool when working under a full load—no danger of freezing, no slopping over or leakage, no waiting to provide water. Easy to start and operate. Cylinders bored three times and finished to a perfectly smooth surface. Carefully ground cylinder rings, pistons, crank shafts, piston pins, gear studs and fan shafts. Drop-forged crank shaft and connecting rod with brass liners of various thicknesses for adjusting the wear. Covered crank case—dust and trash proof. Steel hoods for cylinder and valve chambers. Well oiled throughout.

Guaranty. Every engine guaranteed to be as represented. Warranted to develop their full rated horse-power when properly installed and operated, and not to get overheated by hard, continuous work, if properly cared for.

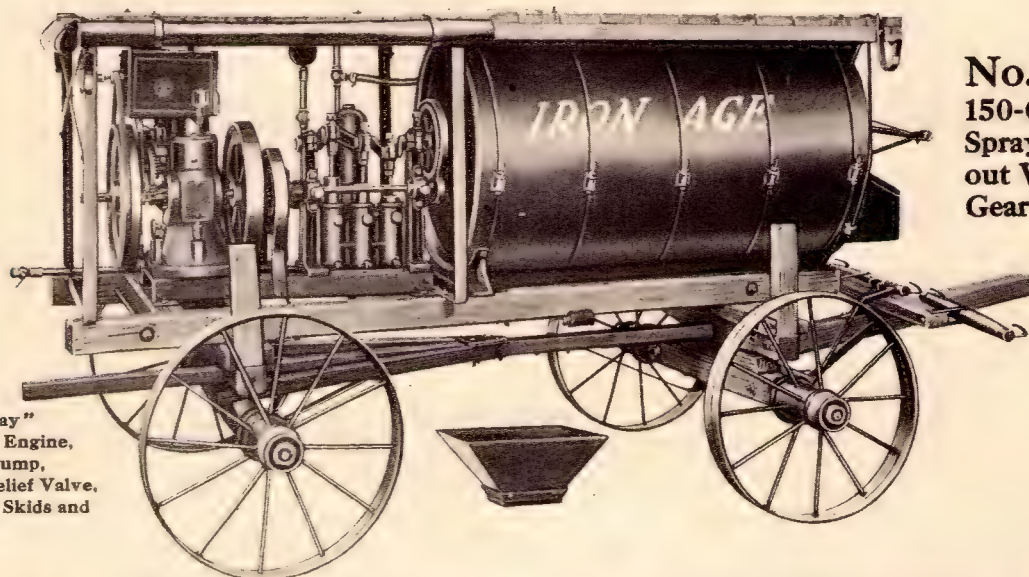
Equipment. Any part proving defective in material or workmanship within one year from date of sale will be replaced free of charge at our factory. No bills for repairs made without our authority will be allowed. Each engine is furnished with battery, spark coil, plug, necessary wire, cylinder oiler, grease cups, etc.



No. 261

One-Horse Air-Cooled Engine
Made in other sizes. Ask for special folder

100- and 150-Gallon Power Sprayers



No. 1200W
150-Gallon
Sprayer (with-
out Wagon
Gear)

"New Way"
Kerosene Engine,
Triplex Pump,
Gauge, Relief Valve,
Platform, Skids and
Flooring

No. 1200

is intended for the big orchardist but every man must decide for himself just where it becomes more profitable to buy a 150-gallon outfit. In large orchards and level country this machine will pay for itself in a short time.

Where land is rolling or hilly, the draft has to be considered, and the 100-gallon machine may be more profitable. It is not economy to try to save in first cost, but it will pay you well to get the right machine in the first place.

The Engine is 3 h. p., described on page 14. The power is ample, 250 pounds constant pressure with six to eight nozzles.

The Triplex Pump has plenty of capacity to handle any solutions, hot or cold, miscible oils, crude oil, lime sulphur, etc. It is fully described on page 5. The pump can be easily thrown in or out of gear without stopping the engine. We guarantee this pump as a thoroughly tested piece of machinery. One base takes both engine and pump, and they are direct-connected.

Strainer and Sediment Chamber is placed between the pump and the tank, and not inside the tank. The solution is taken from the tank by a return bend which does not draw the sediment from bottom of the tank. It is then passed through the strainer into the pump. To clean the sediment from bottom of tank, simply unscrew cap under sediment chamber, and let strainer fall out.

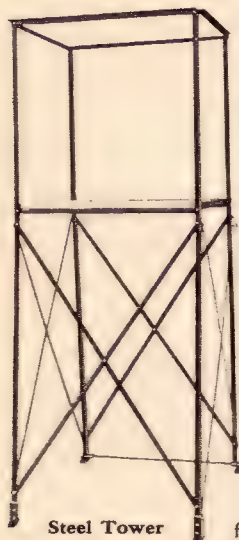
Tank is made of one and one-eighth inch cypress, and is constructed in the same way as on our Traction Sprayer. It is mounted on heavy skids which are separate from the wagon gear. A chain-driven revolving dasher keeps the solution mixed. There is a plug in the bottom so that the tank can be cleaned out.

Platform and Engine Housing: A platform is built over the tank and is continued in the housing for the engine. Curtains are provided which can be lowered to protect the engine when not in use.

Wagon Gear consists of 28-inch front and 30-inch rear, heavy steel wheels, staggered spokes, five-inch flat rims—channel-steel axle, clamped at the rear to the skids and in front with steel circle and king bolt. The tread is 56 inches and the length over all, 10 ft., 3 in. Furnished as extra.

Steel Tower is of angle-steel construction, *hinged so it can be folded* when passing under branches, or under obstructions on the road, such as wires, etc., or through store-house openings. It can be removed entirely if desired. The tower platform is five feet higher than the tank platform, giving a total elevation from the ground of ten and one-half feet.

Hose and Fittings. Prices on Sprayers do not include hose or fittings except as they appear in the cuts. A double hose coupling is attached to the rear of the skid frame. It



Steel Tower

provides for use of two lengths of hose. Special high-pressure quality—furnished in 25-foot lengths or in any length with couplings, if two or more short lengths are preferred. “Iron Age” nozzles are furnished if ordered.

Spray Rods. Either Fig. 419 or Fig. 420, page 8, can be supplied. We recommend the steel pipe outfit as the more durable, and the wood grips make it easy to handle. We would also call your attention to the “New Pilot Spray Rod” described below. It may exactly suit your conditions.

No. 1259 Power Sprayer, without Tank. (See page 19.) For the convenience of those who may have a tank on hand that they can use with an “Iron Age” Power Sprayer, we furnish engine, pump, relief valve and gauge, mounted on angle iron base. Order as No. 1259.



The New Pilot Spray Rod

Has Variable Self-Closing Nozzle. Half the weight, half the length, impossible to clog, will deliver a fine, perfectly broken mist thirty feet from the nozzle with a volume equal to that of three ordinary nozzles.

This New Pilot Spray Rod is designed with a view of taking the hardship out of spraying. It fits on to the hose with the same connection as the old Bamboo Rod and will give perfect satisfaction on any good spray pump at the same pressure as used with the bamboo pole.

The Pilot has an automatic instantaneous shut-off inside the nozzle. In fact, the pressure acts as its own shut-off when the lever is released. This fact alone will make the Pilot pay for itself in one spraying since there will be no loss of material in going from tree to tree. This automatic shut-off also prevents any leak or drip and consequent sore hands.

A 6 ft. Pilot will do better work than a 10 ft. or 12 ft. bamboo pole with three nozzles.

Three-Horse-Power Kerosene Engines

The “New Way” Kerosene Engine used on the 100-gallon and 150-gallon Power Sprayers will save one-half the fuel cost.

No water used either for cooling or injecting into the cylinders with the kerosene. With this system water is not necessary and its elimination adds to the engine simplicity and efficiency.

No smoke. The special patented process of vaporizing the kerosene gives such perfect combustion that the excessive smoke usual with other engines is absent.

No carbon. No more smoke or carbon than when gasoline is used, as the combustion of the oil is complete.

Simplicity. Started on gasoline, one reservoir only, and one needle valve only being used. Comparing this with other engines using one reservoir for kerosene, one for gasoline and one for water, and two or three needle valves, you see its great advantages for use on sprayers.

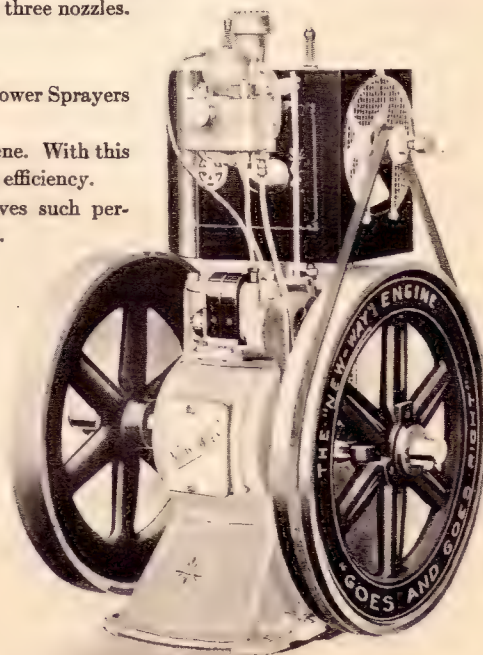
Smooth running without vibration is assured by the engine being throttle governed.

Ignition. High tension Bosch magneto.

Lubrication. Automatically by the splash system. The oil crank case holds enough oil to keep the working parts thoroughly lubricated at all times without attention. Oil for main bearings forced from inside of crank case to outside of bearings eliminates any chance of dirt following in and cutting the bearings.

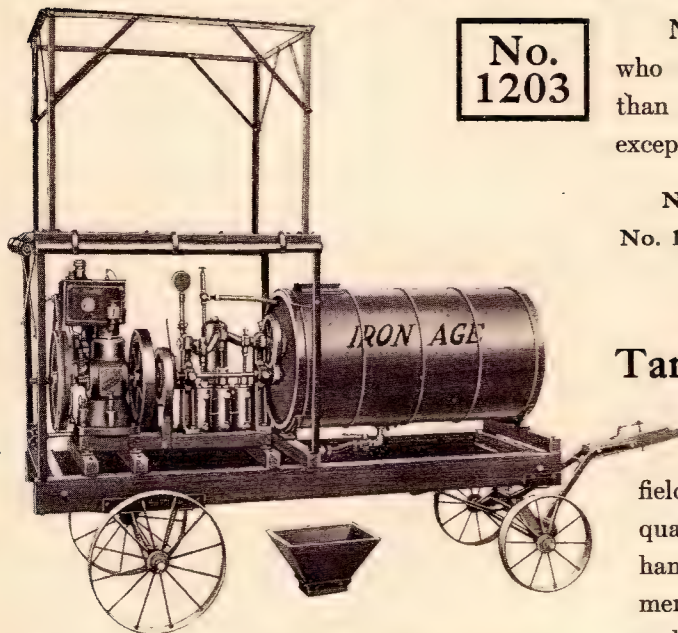
Dust-Proof. Air-tight crank case prevents dust and dirt from getting into the working parts.

Light Weight. Gross weight, 498 lbs. Net weight, 443 lbs.



Power Sprayers—100- and 150-Gallon—Continued

**No.
1203**



No. 1203WP. 100-gal. Power Sprayer

No. 1203 is adapted to the needs of the orchardist who desires a somewhat smaller and lighter outfit than our No. 1200. It is precisely like the latter except that it is equipped with 100-gallon tank.

No. 1203W. No. 1203 with wheels and pole
No. 1203WP. Our No. 1203 equipped with wheels, pole, cab and upper platform

Tank Fillers for Power Sprayers

We make these in three combinations to fit 100- and 150-gallon orchard and field sprayers. They are designed to supply large quantities of water under low pressure and are very handy wherever there is a well or stream. Most men put a quantity of the solution in the tank and fill with water, keeping the agitator going to mix solution and water thoroughly.

These fillers will lift 12 to 23 gallons per minute according to height of lift and pressure. The pressure varies from 120 to 180 lbs. We do not recommend a lift of more than 16 feet.

A filler is one of the best means of cleaning your pump—just drop your suction hose into clear water and start the pump.

Fillers are furnished without suction hose unless otherwise ordered:

Fig. 515-6 Tank Filler (less suction hose) for 1200, 1203, 1203W, 1203WP

Fig. 515-7 Tank Filler (less suction hose) for 115E, page 9



Fig. 515-6
Tank Filler Attachment (parts in black only)

Horizontal Barrel Sprayers

Ready for use
on any
wagon, cart,
stone-boat, etc.

**No.
190**

This is the first of our Barrel Sprayer line and it was the first Horizontal Barrel Sprayer built with the pump entirely outside.

Horizontal. This Sprayer will not tip over on hillsides, where many orchards are set—in some sections nearly all of the land is hilly or rolling. Note how barrel and pump are mounted and the barrel held in place by adjustable hoops. It holds 50 gallons.

Can be used in any wagon, cart, or sled—one horse will pull it.

Outside Pump. No corrosion, solution touches brass parts only, all parts easy to get at, and decent to handle. The pump is single-acting, and the same in principle as on our Traction Sprayers—always reliable and easy-working. See page 2. Just compare it with any other pump that you know about.

Pressure Valves and Packing. 100 to 125 pounds pressure with two nozzles. The valves are bronze balls and find their seats easily. The packing is hemp with lead core—Page 2 shows how easily they are removed for cleaning or renewal.

Solutions. Any kind can be handled and they may be hot or cold. A steel automatic dasher keeps them mixed.

Equipment. Each Sprayer has double hose coupling—when one or two leads of hose (*Fig. 456*, page 24), are wanted with No. 190 add figure 1 or 2 to the number as No. 1901. If wanted with bucket strainer (*Fig. 336*, page 24), add letter "B" to the number, as No. 190B.

Orchard Attachment. Either *Figs. 419* or *420* (pages 8 or 24) can be used with this outfit in connection with one or more leads of hose.



No. 190

Packed
weight,
219 lbs.

Horizontal Barrel Wagon Sprayer

**No.
1904D**

If wanted complete
(without wagon)
order

No. 1904D

Packed
weight,
279 lbs.

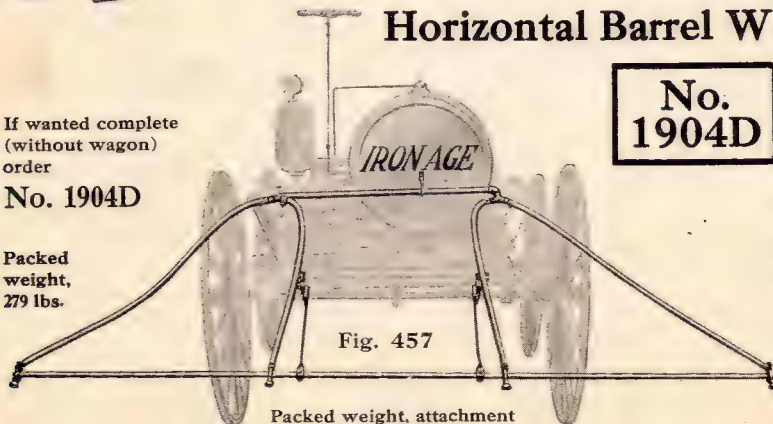


Fig. 457

Packed weight, attachment
only, 30 lbs.

A complete and practical field rig for potatoes and other row crops. Suitable for a few acres and a small orchard or garden. Moderate in price and very useful as a hand outfit.

No. 1904D includes the complete barrel outfit with double-acting pump, pressure gauge and four-row attachment, with "Iron Age" nozzles. The latter is sold as an attachment only when ordered as *Fig. 457*.

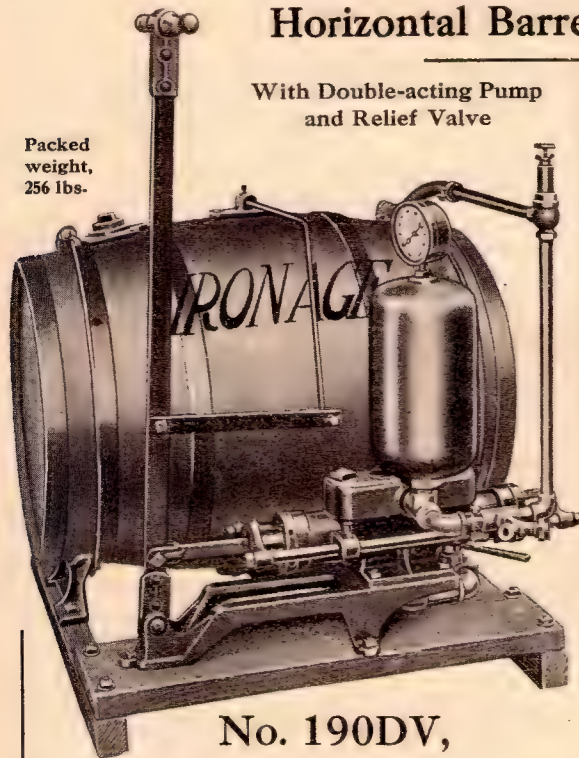
Pressure. 150 pounds for four nozzles.

Adjustment for height of spray bar and for various width rows, from two to three feet apart, to suit conditions.

Horizontal Barrel Sprayers—50-Gallon

With Double-acting Pump
and Relief Valve

Packed
weight,
256 lbs.



No. 190DV,

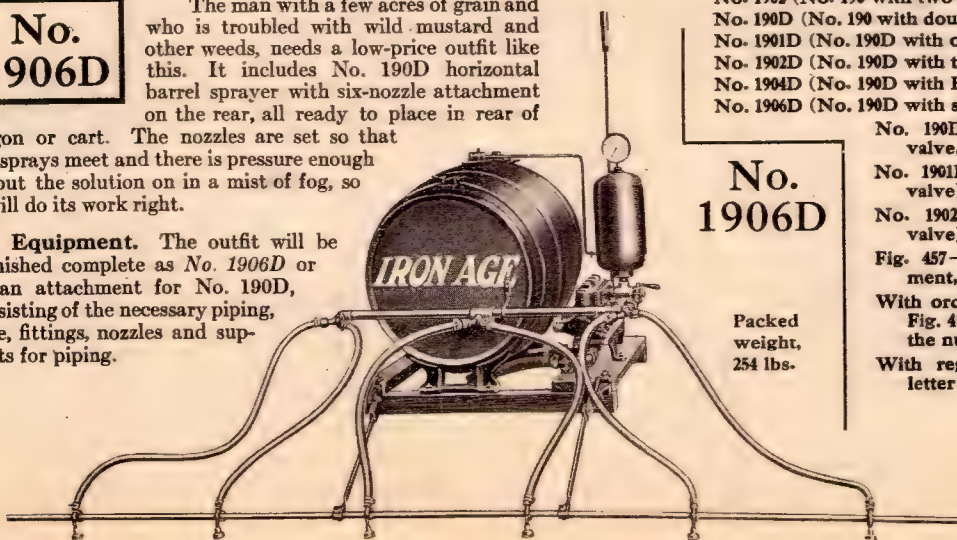
Six-Nozzle Grain Sprayer

**No.
1906D**

The man with a few acres of grain and who is troubled with wild mustard and other weeds, needs a low-price outfit like this. It includes No. 190D horizontal barrel sprayer with six-nozzle attachment on the rear, all ready to place in rear of

wagon or cart. The nozzles are set so that the sprays meet and there is pressure enough to put the solution on in a mist of fog, so it will do its work right.

Equipment. The outfit will be furnished complete as No. 1906D or as an attachment for No. 190D, consisting of the necessary piping, hose, fittings, nozzles and supports for piping.



**No.
190DV**

This is exactly like No. 190, except that it has double-acting pump instead of single-acting and has pressure gauge and large relief valve. Takes any of the hose and orchard equipment which can be used on No. 190.

Pressure. 150 pounds with four nozzles and very much higher pressure with fewer nozzles.

For Power Sprayers Only. For application of No. 190DV, see pages 12 and 16. No. 190DV is used in this form on power sprayers only; the relief valve is necessary where an engine is used—keeps the pressure down and regulates the fineness of the spray.

With Double-Acting Pump Only

No. 190D. Same as No. 190DV, except that it does not have relief valve. We need not point out to practical men, who have had experience spraying fruit and potatoes, that while a double-acting pump is not necessary in some cases, it is usually the most economical machine to own in spite of its higher initial cost.

When wanted with one or two leads of hose, add the figure 1 or 2 to the number.

No. 190 and various combinations

- No. 190 (page 16)
- No. 1901 (No. 190 with one lead hose)
- No. 1902 (No. 190 with two leads hose)
- No. 190D (No. 190 with double-acting pump)
- No. 1901D (No. 190D with one lead)
- No. 1902D (No. 190D with two leads)
- No. 1904D (No. 190D with Fig. 457) page 16
- No. 1906D (No. 190D with six-nozzle attachment)

**No.
1906D**

Packed
weight,
254 lbs.

- No. 190DV (No. 190D with relief valve, complete)
- No. 1901DV (No. 1901D with relief valve)
- No. 1902DV (No. 1902D with relief valve)
- Fig. 457—Four-row wagon attachment, (page 16)
- With orchard spray rod (steel pipe, Fig. 419, page 8), add letter "R" to the number
- With regular bucket strainer, add letter "B" to the number

See also 100-gallon rig
on page 18

Horizontal Barrel Sprayers—50-Gallon

No. 190 (page 16) can easily be added to and built up to greater usefulness and convenience. To do this, we use either an all-steel truck or 6-foot skids.

No. 252 All-Steel Truck

No. 252 All-Steel Truck has 14-inch front and 20-inch rear wheels—steel with cast hub and 3-inch rim. The tread or width of each pair of wheels is 37 inches. The forward truck is “undercut” style—that is, it goes under the frame, turning short. The wheel base is $4\frac{1}{2}$ feet. The forward truck is



No. 252

Packed weight,
274 lbs.

made in reversed steel truss construction—nothing could be stronger. The side frame pieces are angle steel. Fitted with thills only.

No. 253 Wheels and Thills, for the Wooden Skids as mentioned above.

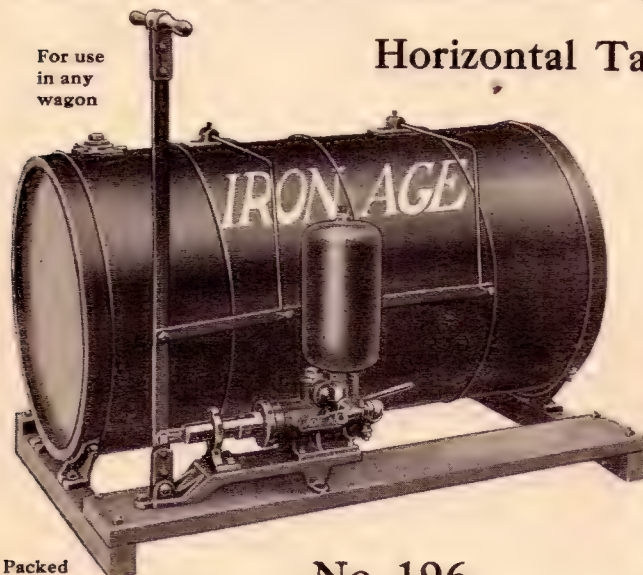
No. 254 Wheels and Thills with Wooden Skids.

No. 255 Wheels and Pole for Wooden Skids.

No. 256 Wheel, Pole and Wooden Skids.

For use
in any
wagon

Horizontal Tank Sprayers—100-Gallon



Packed
weight,
276 lbs.

No. 196

With single-acting pump

No. 196 and combinations

No. 196, with S.-A. pump.

No. 1961, same with one lead of hose (Fig. 456, page 24).

No. 1962, No. 196 with two leads of hose.

No. 196D, No. 196 with D.-A. pump.

No. 1961D, same with one lead of hose.

No. 1962D, No. 196D with two leads of hose.

No. 196DV, No. 196D with relief valve and pressure gauge.

With orchard spray rod (Fig. 419, page 24) add letter “R” to the number.

With regular bucket strainer, add letter “B” to the number.

Mounted Hand Sprayers (100 gal.)

No. 228, includes No. 196, No. 252 steel truck, short platform.

No. 228D, includes No. 196D, No. 252 truck, short platform.

**No.
196**

is built on the same principle as the 50-gallon No. 190, and can be used in any wagon. The double capacity saves time in refilling. This point should appeal to those having sufficient acreage to warrant it.

The Tank is similar to those on our 100-gallon Traction Sprayers. Made of best grade one-inch cypress, held together by adjustable steel hoops and securely mounted on a skid frame. Fitted with automatic double agitator.

The Pump. Single-acting, same style as on No. 190. Pressure, 125 pounds with two nozzles.

Mounted Hand Sprayer—100-Gallon, No. 228

Includes No. 196 and No. 252 all-steel Truck (shown above), with short platform. This makes it convenient to get around with, especially on hilly ground. One horse will draw it easily.

Other Mounted Combinations

For use in your wagon, we provide same 100-gallon tank and separate single- or double-acting power pump, belt-drive, mounted on skids ready for your engine; also, same with wheels and pole under the skids. If you have No. 196 already, other parts may be obtained to build up the combinations listed here.

Hand and Power Pumps and Pump Jacks

These pumps and jacks are used as units in making up the various combinations shown on pages 12 to 18, but they can be used in many other ways, separately.

Double-Acting Hand Pump, No. 193

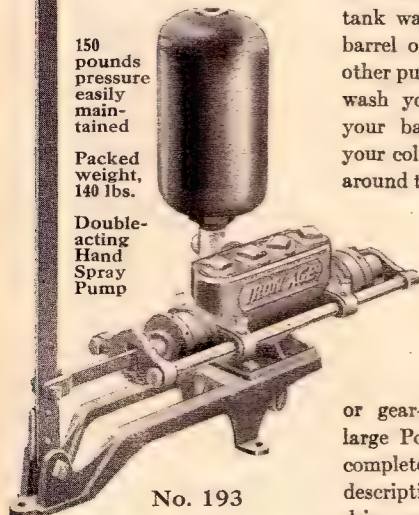
The pump is exactly like those used on our double-acting Horizontal Barrel Sprayers on page 17 and similar to the one used on Traction Sprayers for years. 150 pounds pressure with four nozzles.

It is made to be shifted about and can be fastened anywhere for immediate use. Put it on a plank, skid, bottom of a sled, or stone-boat, or on your tank wagon. Can be used with any barrel or tank, or as a lift pump for fire or other purposes. For instance, you can white-wash your poultry house, apply cold-water paint to your barn, summer cottage, etc., supply water for your cold frames, and do the dozen and one odd jobs around the house.

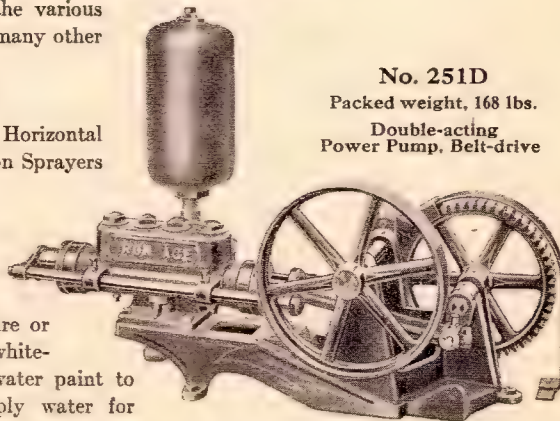
150
pounds
pressure
easily
main-
tained

Packed
weight,
140 lbs.

Double-
acting
Hand
Spray
Pump



No. 193



No. 251D

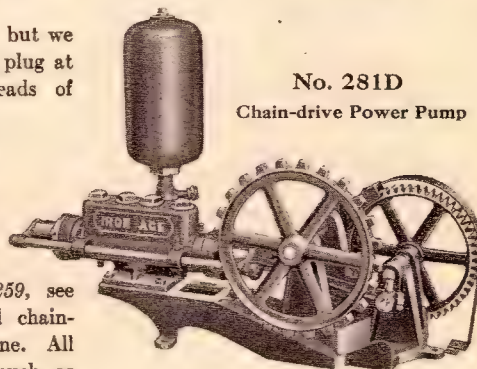
Packed weight, 168 lbs.

Double-acting
Power Pump, Belt-drive

Fitted for one lead of hose, but we can supply a "Y" coupling and plug at slight additional cost. For leads of hose, see Fig. 456, page 24.

Power Pumps

They are single- or double-acting, belt-drive, chain-drive or gear-drive. The latter are used on our large Power Sprayers, Nos. 1200, 1203 and are complete with two-horse engine as in No. 1259, see descriptions on pages 5 and 14. The belt- and chain-drive pumps are meant to go with your engine. All can be used for a variety of pumping jobs such as every farmer has.



No. 281D

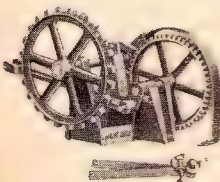
Chain-drive Power Pump

Pump Jacks

They are made both right and left hand belt-drive, and right hand chain-drive. They serve as the connecting link between your sprayer and your engine. Diameter of the pulley is 12 in. and the face, 3 in. 220

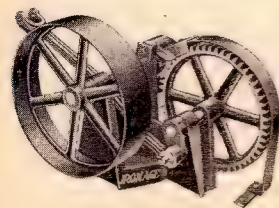
revolutions of the pulley will drive double-acting pump to supply 4 nozzles at 150 pounds pressure. (Or, single-acting pump to supply 2 nozzles at 150 pounds.) Ratio of gears, 53 to 12.

Can be furnished plain or mounted on skids or trucks. See list on page 17.



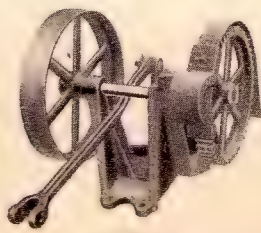
No. 280

Chain-drive Pump Jack



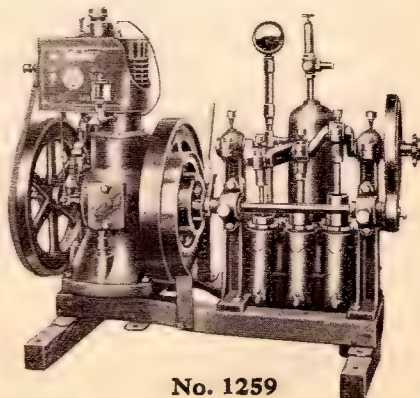
No. 249

Pump Jack, R. H.



No. 250

Pump Jack, L. H.



No. 1259

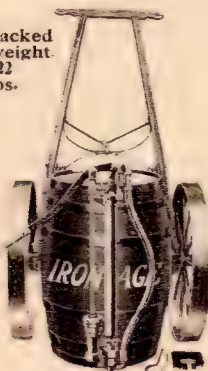
Vertical Barrel Pumps and Sprayers

**No.
194**

This is the smaller of two sizes, but it has enough capacity for home, garden and small orchard work.

Shipped Ready to Use. Fits any barrel, attaches to *outside* of barrel instead of the top because side is much stronger. Shipped without barrel unless barrel is ordered. Our barrels hold 50 gallons. Can be used on the ground with barrel or bucket, or in wagon or cart.

Packed weight, 222 lbs.



No. 194T

An Outside Pump cannot corrode, easy to repair and more pleasant to handle than an inside pump. Nothing inside barrel but a galvanized suction pipe and automatic dasher to keep solution stirred. A screen in the suction pipe protects the pump against sediment.

Valves are bronze balls that "find" their seat naturally and are easily got at.

Hemp Packing with lead core—no leather to harden. Easily replaced as on No. 192.

Handles any kind of **Solutions**, hot or cold. All valve parts are brass and free from corrosion.

100 pounds **Pressure** easily maintained while spraying with two nozzles—greater pressure in proportion, if but one is used. Will draw from the bottom of a bucket—convenient when you have but a small job to do.

Equipment. Double hose coupling, one plug, wrench for stuffing box and covering plate for opening cut for suction pipe and dasher. One or two leads of hose can be used. (Fig. 456, page 24.)

No. 194T

This rig consists of No. 194 mounted on our No. 2 Truck and 50-gallon Barrel. Truck has steel wheels, with 2½-inch tires, truss rod and side irons to give greater strength. Transports your solution easily and without waste. Furnished plain or with one or two leads of hose, or with steel or bamboo orchard rods. See Figs. 419, 420, page 24. If you have an estate to be looked after, or are in charge of a public park, railroad station grounds, etc., this outfit will soon pay for itself.

No. 191

Larger size—practically same in construction as No. 194, except it has larger cylinder and the valves are arranged to get at from the top. Pressure, 100 to 125 pounds with four nozzles. This greater power is well worth the difference in price to the man who needs it.

No. 1914B

includes No. 191 and four-row attachment, Fig. 422, and makes a complete field rig for potatoes and other row crops, in gardens, orchards or on small farms. It is entirely practical for all such spraying, and moderate in price.

4-Row Attachment

Adjustable for height and for width rows, two or three feet apart. "Iron Age" nozzles. Sold as an attachment or complete rig.

Nos. 191 and 194 with all Combinations

No. 191 Sprayer without barrel.
No. 191B Sprayer with barrel.
No. 1911, No. 191 with 1 lead of hose.

Packed weight, 24 lbs.

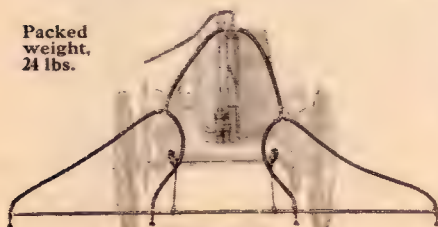


Fig. 422

No. 1912, No. 191 with 2 leads of hose.
No. 1914B, No. 191 with barrel and Fig. 422.

No. 191T with truck and barrel.
No. 1911T, No. 191T with 1 lead.
No. 1912T, No. 191T with 2 leads.
No. 194 Sprayer without barrel.
No. 194B Sprayer with barrel.
No. 1941, No. 194 with 1 lead.
No. 1942, No. 194 with 2 leads.
No. 194T, No. 194 with barrel and truck, truss rod and stay.
No. 1911T, No. 194T with 1 lead.
No. 1942T, No. 194T with 2 leads.
With orchard spray rod, (steel pipe, Fig. 419, page 24), add letter "R" to the number.

**No.
194**

Pump, without barrel.

Packed weight, pump only, 62 lbs.



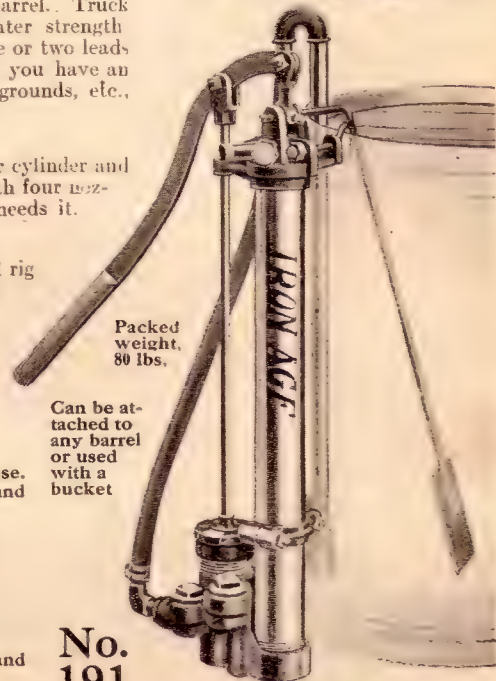
Packed weight, 80 lbs.

Can be attached to any barrel or used with a bucket

**No.
191**

Pump, without the barrel.

Shipped ready to use



Bucket Spray Pumps

This pump is somewhat higher in price than the usual pump of this style, but worth every cent of its cost. Spread over the many years that it will last, the cost is very slight, and you will have a good pump years after the cheaper kind is gone. Besides, there is the satisfaction of using the easier working, more accessible tool all the time. Study the matter carefully and you will see why it costs more, and is *worth more than it costs*.

It is made entirely of brass and malleable iron. It is carefully fitted and intended for use in *any* bucket, for any small job about the house and garden, or in the poultry house. For spraying small trees, bushes, vines, for whitewashing, cold-water painting, washing wagons, windows, etc., it is a wonder.

Fig. 404 shows the location and relation of parts and Fig. 403 shows valves loose and the order in which they are returned to the base of the pump. Simply unscrew the bottom with any flat edge tool—that lets out one valve and the other is removed in the same way. Compare this with the pumps where you have to take out air chamber and plunger before you can get at the valves. Also, there is no leakage when "Iron Age"

valves are put back. The valves are bronze ball and "find" their own seats naturally. *The packing* is candlewick which cannot harden like leather. It answers the purpose perfectly and doesn't cost much to replace when necessary. This job is easily done—no plunger to remove, simply unscrew stuffing box nut (Fig. 404), lift the gland and make the exchange. The nut screws down with same pressure all around.

No Friction

The plunger does not fit tight in the cylinder. Fig. 404 shows clearance. There is no packing on the plunger to wipe the inside of the cylinder and make continual wear with the grit which may be in the solution.

High Pressure—Easy Stroke

100 pounds when spraying and is easily kept up. We use a lever so that the spray comes with the downward stroke.

This pump handles **any kind of solution**. The solution touches brass parts only which cannot corrode. A screen below the lower valve keeps out sediment.

Equipment

33 inches best quality half-inch hose, "Iron Age" nozzle, extra cap (see arrow No. 192) for washing wagons, windows, etc., and a foot standard which can be taken off and the pump used in a half-barrel instead of a bucket.

Bucket

Complete with agitator and "spider" frame, can be furnished to attach in place of the foot piece. (See No. 195 on following page.)



No. 192

Packed weight,
10 lbs.
100 lbs. pressure.

The double arrow shows where you will find the extra cap for washing wagons, windows, etc., and the place where it is used, instead of regular nozzle.

Bronze ball valves showing removal and return to cylinder

Fig. 403

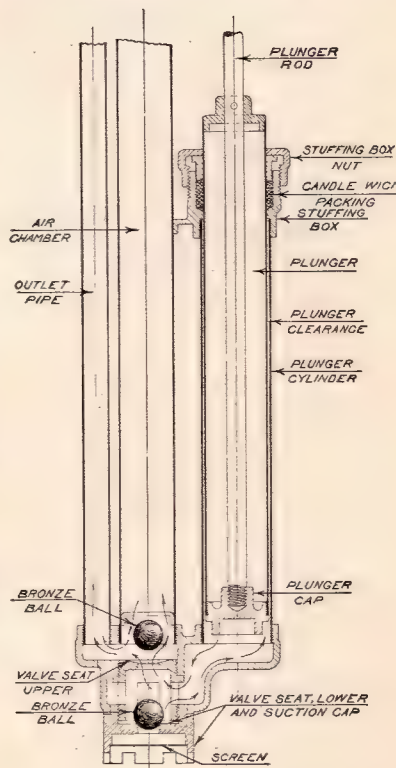


Fig. 404

Section of bucket pump. Note especially the packing and the valves—both easy to get at

Bucket and Small Barrel Sprayers

**No.
195**

No. 195 is the same Bucket Sprayer as shown on page 21 but with special bucket in place of the foot piece used on pump No. 192.

Bucket Easily Detached

Just loosen thumb nuts at three ends of the "spider" frame—then, the bucket is readily cleaned, or you may want to use the pump in a half barrel, instead of bothering with a bucketful. Good bucket, painted.

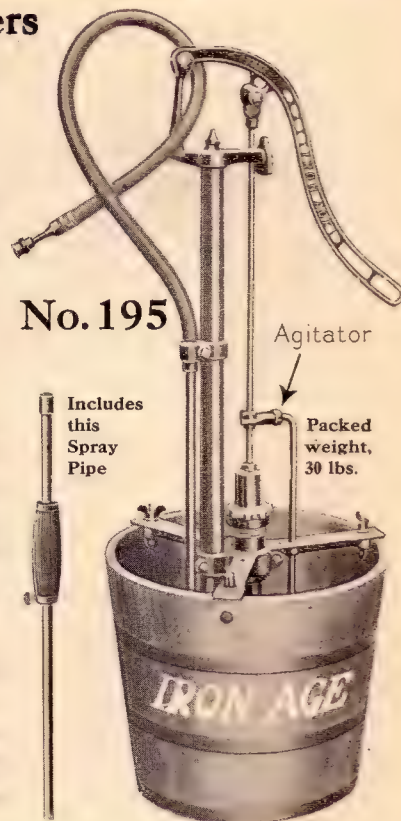


An automatic agitator keeps solution *thoroughly stirred*.

Easily Carried in one hand, by the pump cross piece or by the lever at the top.

Equipment

33 inches of hose, two-foot steel pipe extension with adjustable hand grip, and "Iron Age" nozzle are included with each No. 195. With the pipe extension you can stand away from your work—also reach higher bushes, small trees, buildings, etc.



20-Gallon Barrel Sprayer

**No.
197**

Here we attach No. 192 in a small barrel mounted on a steel-wheel truck and fit it with necessary handles, spray pipe, etc.

Where Used on small estates, in public parks, around railroad stations, on chicken farms, etc., this is a very handy machine, for three reasons:

You can pump with one hand, keeping up 100 pounds pressure, and guide the spray rod with the other.

It requires little effort to push or pull this rig to where you want to use it. 24-inch steel wheels, staggered spokes, double hubs, two-inch tires. The axle is in *one piece* and goes under the barrel—no holes are bored for it and so there is no chance for leakage.

It is securely bolted to a two-piece cast plate, which rests in an opening cut for it in the top of the barrel, and is held there by two eccentric levers. To remove pump, simply move the levers and lift. (See Fig. 455.) Do this each time when through spraying for although the pump is brass and the agitator galvanized so they won't corrode, it is best to take care of them. The agitator is automatic and keeps the solution stirred thoroughly.

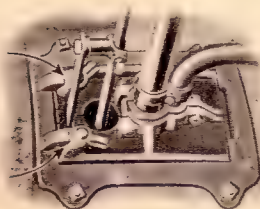
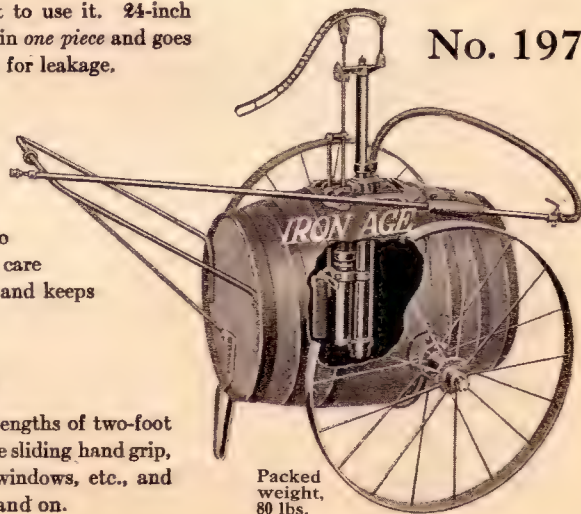


Fig. 455

Move the levers and you can lift pump and plate out in one piece

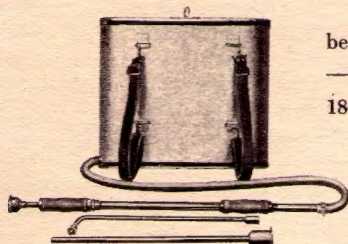
Equipment

33 inches of half-inch hose, two lengths of two-foot pipe, stop cock, "Iron Age" nozzle, one sliding hand grip, an extra cap for washing wagons, windows, etc., and steel handles and leg for barrel to stand on.



Auto-Spray No. 5

This Pump is an ideal general-purpose hand sprayer which may be used for spraying trees, vines, garden truck, potatoes and any field crops, and for handling whitewash and disinfectants.



No. 5 Auto-Spray

The pump is made entirely of brass. It has two ball valves so arranged that spraying may be done *either up or down*. Valves may be quickly cleaned. The threads are all cut—not rolled—so that there is no chance for leakage. Pump is double acting and will develop a pressure of 180 lbs. We furnish with this pump 3½ ft. of ¾-in. suction hose and a heavy strainer that keeps the hose from working out of a bucket. The strainer screen can be easily taken out of the strainer casting. This strainer has five square inches of screen surface.

The extension is extra. Very useful for spraying field crops. The Knapsack Tank is also extra, and is needed if the sprayer is to be moved about much.

Compressed Air Sprayers

**No.
316**

Capacity, three gallons. Strong, galvanized steel tank, lock seamed body, heavy heads seamed in by special machinery, tested to 60 lbs. air pressure. Joints are absolutely water- and air-tight. Can be cleaned without breaking any joint in the tank.

Pump

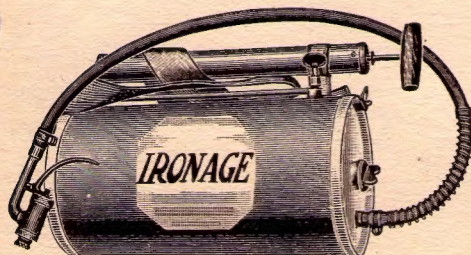
1½-inch seamless brass cylinder, brass pump seat and bronze ball check valve, easily removed for cleaning, coppered plunger rod, 14-inch plunger. The small seamless brass air tube which runs to top of the tank outside, with needle shut-off, keeps the solution from backing up into the pump.

The Nozzle

Delivers a very fine spray in whirling motion—covers evenly, leaving no blank space in the center. Cannot clog as a patented spiral point cleans out the cap at every operation. This feature is found only on this Sprayer. The nozzle is solid brass—no corrosion. A bronze spring hand lever gives perfect automatic control. The nozzle is interchangeable and can be taken apart and put together in a few seconds.

Equipment

3-foot hose with wire reinforcement, adjustable carrier strap. Finished in aluminum and enameled green ends. Directions on each tank. If wanted with brass tank, order No. 317.



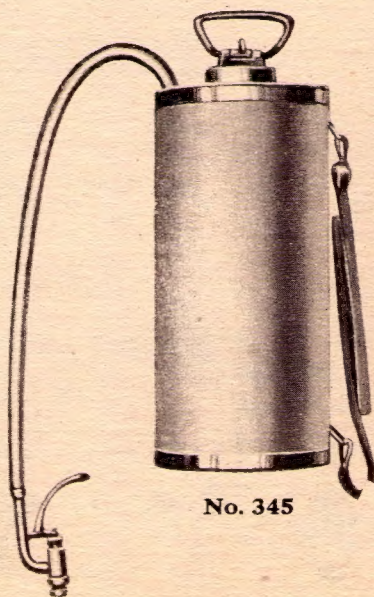
No. 316

Galvanized.

Packed weight, 10 lbs.

**No.
345**

is built along the same lines as Sprayer No. 316, except that this Sprayer has an inside pump, a feature desired by some in different localities. The pump is a seamless brass cylinder 1¾ inches diameter, 14½ inches long, fitted with brass valve and sealed into the top of the tank with heavy threads—absolutely no air can escape at this point. The pump can be easily removed for filling.



No. 345

Attachments and Accessories

Attachments for Barrel, Bucket and Power Sprayers

- Fig. 336**—Bucket Strainer
Fig. 419—Steel Pipe Rod, 10 ft., with Stop
 Cock, 45° L, 2 Grips and Drip
 Guard
Fig. 420—Bamboo Rod, 10 ft., with Stop
 Cock, 45° L, Drip Guard
Fig. 456—One lead of Hose, 15 ft. 1/2-inch,
 with one "Iron Age" Nozzle
 and Strainer.....

Accessories for all Sprayers

- Hose Clamp, 1/2-inch.....
 —Hose Clamp, 3/4-inch.....
 —Hose Clamp, 1-inch.....
S118 —Hose Connection, 1-inch,
 brass, male coupling....
S138 —"Y" Connection, brass....
S180 —"Y" Outlet, 3/4", brass (1—
 3/4" pipe thread, 2—3/4"
 hose connections)
S180A—"Y" Outlet (3—3/4" hose
 connections)
S182 —Service Ell, 1/4", 45°, brass
S201 —Male Hose Connection, 3/4",
 brass.....



Fig. 336
Bucket Strainer

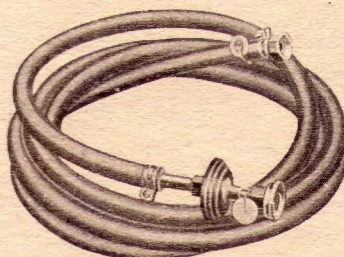


Fig. 456
One lead of hose, complete

- S202-S204**—Female Hose Connection
 Sleeve and Nut, 3/4", brass
S203-S204—Female Hose Connection
 Sleeve and Nut, 1/2", brass
S226—Nozzle Connection, for 1/2" hose,
 brass
S258—"Y"—45°, brass, for orchard attach.
3092—Stop Cock and Lever, 1", brass...
3185—Vermorel Spray Nozzle and Cap,
 brass
3231—Nozzle, special, for cleaning, brass..
3280—Nozzle Strainer, complete,
 brass.
3388—Nozzle. See No. 3496.....
3391—Stop Cock and Stem, 1/4", brass,
 for orchard attachment....
3395—Triple Fitting for three nozzles,
 special for orchard attach....
3480—Stop Cock and Lever, 3/4", brass
3496—Pressed Brass Nozzle, complete
 See page 2
3498—Pressed Brass Nozzle Strainer,
 complete. See page 2.....
8180—Stop Cock, 1/4", for No. 197,
 brass (both ends female)...
 —Bordeaux Nozzle, brass.....

Orchard
Attachments

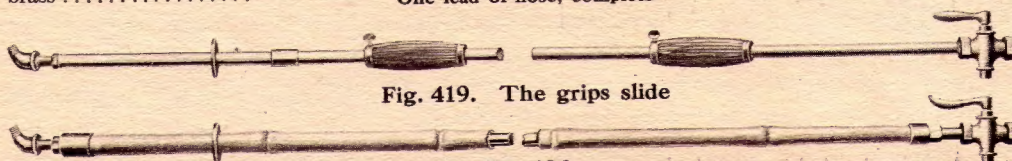
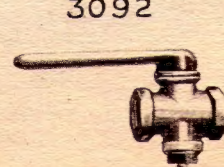
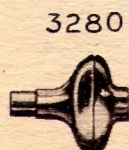
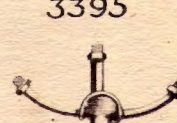
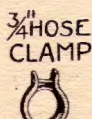


Fig. 419. The grips slide

For
Barrel
and
Power
Sprayers



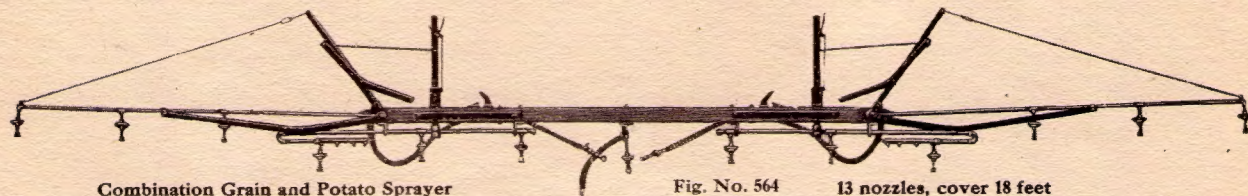
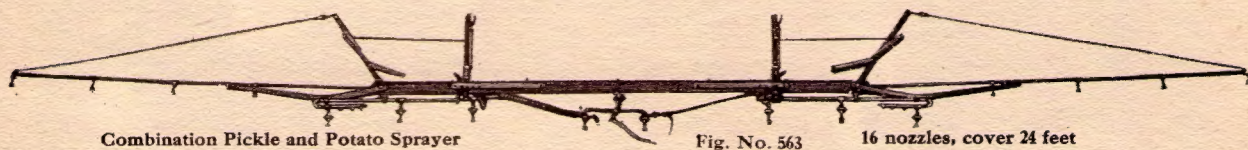
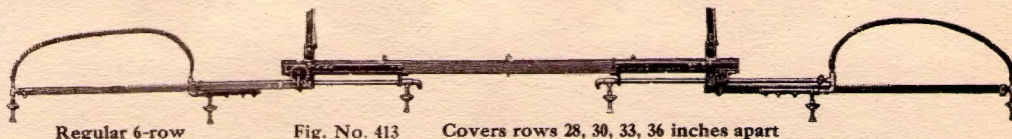
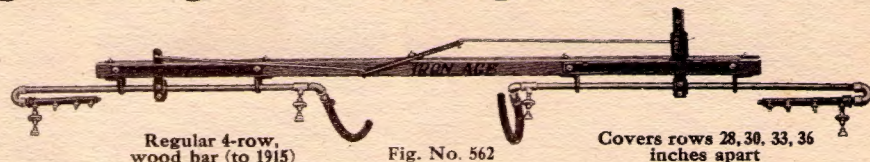
BATEMAN M'FG CO.
GRENLOCH, N.J., U.S.A.

IRON AGE

EIGHTY-TWO
YEARS IN BUSINESS

Showing the Range of Traction Spray Bars

The cuts on this page show regular combinations as listed on pages 3-9 and two specials as suggestions to indicate how, with a little pipe and a few nozzles, we can meet any special condition which our regular



spray bars do not quite touch. We do not guarantee to do all you might ask in this line but we can help you many times with suggestions and the right outfit.

With our present Traction Sprayer equipment, we can spray effectively the following crops: Potatoes, tomatoes, cucumbers, cabbage, celery, asparagus, sugar beets, egg plant, cotton, tobacco, grain, meadows, strawberries, cantaloupe and other small fruits—in fact, anything grown in rows. Also, with the orchard attachment, we can take care of a limited number of trees economically.

Our hand and power Sprayers take care of the rest.

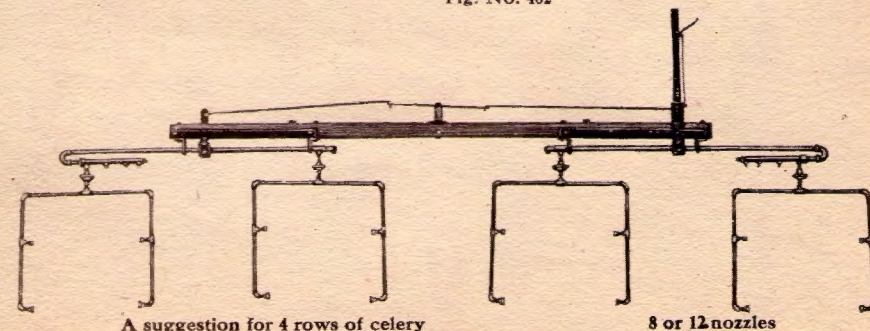
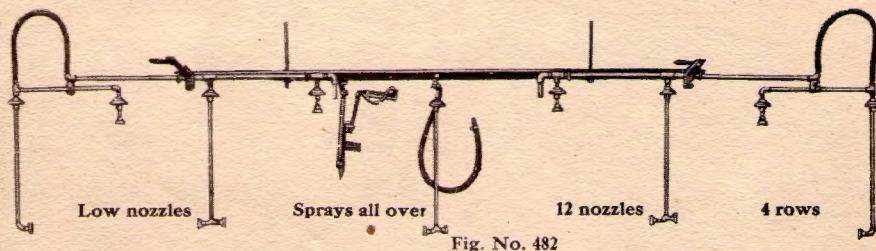


Fig. No. 566. Celery Attachment only.



Property of Jason Allen